

**A Bina Puri Sdn Bhd v MUI Continental Insurance Bhd
(formerly known as MUI Continental Insurance Sdn Bhd)**

B HIGH COURT (KUALA LUMPUR) — SUIT NO D11–22–140 OF 2002
NALLINI PATHMANATHAN JC
9 OCTOBER 2009

C *Insurance — Contractor's all risk policy — Claim for loss and damage —
Whether insured to prove damage within ambit of peril insured against in policy
— Whether insurer to prove damage fell within exceptions in policy which
excluded liability — Whether insured entitled to be indemnified*

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The plaintiff, as a main contractor, undertook in 1995 for the construction of a building ('the contract work'). In early 1996, cracks appeared in buildings and drains near the work site. The plaintiff had earlier taken a contractor's all risks policy from the defendant ('the policy'). The policy covered damage to the contract work (section 1) and damage to third party property (section 2). Section 1 provided cover for 'any unforeseen and sudden physical loss or damage from any cause, other than those specifically excluded...'. The relevant exclusion clause to section 1 stated that the insurers were not liable for 'loss or damage due to faulty design'. Section 2 provided cover for 'accidental loss of or damage to property belonging to third parties occurring in direct connection with the construction or erection of the items insured under section 1 and happening on or in the immediate vicinity of the site during the Period of Cover'. Section 2 precluded cover for damage caused by vibration or by the removal or weakening of support or injury or damage to any person or property. The plaintiff made a claim under the policy which was eventually rejected. PW3, the expert for the plaintiff maintained that the cause of the damage was 'sudden' and 'unforeseeable' and was the unpredictable consequence of the surprisingly heavy rainfall in early 1996.

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H The defendant on the other hand, maintained that the damage was foreseeable and not sudden thereby precluding coverage under the policy. DW1, the defendant's expert testified that the cause of such damage was the wrong choice of a retaining wall and faulty design. Similar arguments were raised in relation to the damage to the surrounding third party buildings.

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Held, allowing the plaintiff's claim in part:

(1) With respect to the contract work in section 1, the plaintiff had to

establish that it came within the peril insured against in the policy, namely that it had suffered unforeseen and sudden physical loss and damage from any cause. As for those causes specifically excluded it followed that it was incumbent upon the defendant to establish that the causes fell within the exceptions set out in the policy which excluded liability (see paras 18–19).

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- (2) DW1's evidence was to be preferred to that of PW3. Accordingly, the cause of the damage was the wrong choice of a retaining wall and not the heavy rainfall. The ground anchors failed as a consequence of weakening of the soil around it which was caused in turn by the flow of water because of the permeable retaining wall system used. If a less permeable system had been designed and utilised, water would not have flowed across the retaining wall weakening the anchors despite heavy rainfall (see para 87).

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- (3) The failure of the wall was foreseeable because it was directly attributable to the weakening of the soil around the ground anchors supporting it due to the flow of water and fines from the retained earth side of the excavation into the excavation site which reduced the ground water table level on the retained side. This resulted in ground settlement or consolidation which was foreseeable (see para 88).

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- (4) The deflections of the wall were progressive over a period of several months. In fact remedial measures were taken to try and stop the damage to the retaining wall as well as the third party property. The nature of the deflections and the period over which they occurred suggested that the damage to the wall was not sudden (see para 91).

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- (5) Therefore, the damage to the contract works under section 1 of the policy was neither 'unforeseeable' nor 'sudden'. As such the damage did not fall within the ambit of the peril insured against. Even if the damage was indeed 'sudden' and 'foreseeable', it would have been due to a design fault. This would have fallen within the exclusion (c) to the policy which excluded the insurer from liability (see paras 92–93).

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- (6) The wrong choice of a retaining wall and pressure grouting may well have caused consolidation settlement resulting in the damage to the third party property. The weakening or removal of support was the last link in the chain of events giving rise to the third party damage. But it was not necessarily the proximate cause of such third party damage. The proximate cause of a loss is not the cause which is the last in time to bring about the loss. It is the cause which leads in the natural sequence of events to the final loss. Since the proximate cause of the loss was the wrong choice of retaining wall or faulty design and pressure grouting, the loss was not caused by a removal or weakening of support. As such,

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- A section 2 applied. The defendant was liable to the plaintiff for all losses arising from damage to property belonging to third parties (see paras 104, 108 & 111).

[Bahasa Malaysia summary]

- B Plaintiff, yang merupakan kontraktor utama, menjalankan suatu kerja pembinaan bangunan ('kerja pembinaan tersebut') pada tahun 1995. Pada awal 1996, berlaku rekahan pada bangunan dan saliran-saliran berhampiran dengan tapak pembinaan tersebut. Plaintiff pada awalnya telah mengambil
- C polisi risiko kontraktor sepenuhnya daripada defendan ('polisi tersebut'). Polisi tersebut melindungi kerugian atas kerja pembinaan tersebut (seksyen 1) dan ganti rugi kepada hartanah pihak ketiga (seksyen 2). Seksyen 1 memperuntukkan perlindungan ke atas 'any unforeseen and sudden physical loss or damage from any cause, other than those specifically excluded...'.
- D Klausula pengecualian yang relevan kepada seksyen 1 menyatakan bahawa syarikat insurans tidak bertanggungjawab ke atas 'loss or damage due to faulty design'. Seksyen 2 memperuntukkan perlindungan untuk 'accidental loss of or damage to property belonging to third parties occurring in direct connection with the construction or erection of the items insured under section 1 and happening on or in the immediate vicinity of the site during the Period of Cover'. Seksyen 2 mengecualikan perlindungan ke atas ganti rugi yang diakibatkan oleh getaran atau diakibatkan oleh penyingkiran atau pelemahan sokongan atau kecederaan atau kerosakan terhadap mana-mana individu atau hartanah. Plaintiff membuat tuntutan di bawah polisi tersebut
- E yang kemudiannya telah ditolak. PW3, saksi pakar bagi pihak plaintiff menegaskan bahawa sebab kerosakan tersebut adalah 'sudden' dan 'unforeseeable' dan merupakan akibat yang tidak dijangkakan ekoran hujan lebat yang tidak diramalkan pada awal 1996. Defendan pula menegaskan bahawa kerosakan tersebut boleh dijangka dan tidak berlaku secara tiba-tiba dan oleh itu mengecualikan perlindungan di bawah polisi tersebut. DW1
- G saksi pakar defendan memberi keterangan bahawa sebab kerosakan tersebut adalah akibat daripada salah memilih tembok penahan dan kesilapan reka bentuk. Hujahan yang sama dibangkitkan berkaitan dengan kerosakan ke atas sekeliling bangunan-bangunan pihak ketiga.
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Diputuskan, membenarkan tuntutan plaintiff:

- I (1) Berkenaan dengan kerja pembinaan di bawah seksyen 1 plaintiff perlu membuktikan bahawa kerja tersebut terangkum dalam bahaya yang dilindungi oleh polisi tersebut, iaitu plaintiff telah mengalami kerugian dan kerosakan fizikal yang tidak dijangka dan secara tiba-tiba daripada apa-apa sebab. Bagi sebab-sebab yang dikecualikan secara khusus, maka adalah wajib bagi pihak defendan untuk membuktikan bahawa

- sebab-sebab tersebut terangkum di dalam pengecualian-pengecualian yang digariskan dalam polisi tersebut yang mengecualikan liabiliti (lihat perenggan 19–20). A
- (2) Keterangan DW1 adalah lebih kukuh berbanding keterangan PW3. Maka, sebab kerosakan tersebut adalah salah memilih tembok penahan dan bukannya hujan lebat. Penambat-penambat di dasaran menjadi tidak kukuh akibat daripada sistem tembok penahan yang telap digunakan. Jika sistem yang kurang telap direka bentuk dan digunakan, air tidak akan mengalir merentasi tembok penahan tersebut yang akan melemahkan penambat-penambat tersebut walaupun hujan lebat turun (lihat perenggan 89). B C
- (3) Kelemahan tembok tersebut memang dijangka oleh sebab tembok tersebut adalah penyebab langsung kepada tanah yang lemah di sekitar penambat-penambat di dasaran yang menyokongnya akibat daripada pengaliran air dan gentian daripada tanah yang dibiarkan di kawasan penggalian ke tapak penggalian yang mana mengurangkan aras air tanah di tepian yang dikekalkan. Ini mengakibatkan pemendapan atau pengukuhan yang mana boleh diramalkan (lihat perenggan 90). D
- (4) Pemesongan tembok tersebut berterusan sepanjang tempoh beberapa bulan. Malah, langkah-langkah pemulihan telah diambil untuk mencuba menghentikan kerosakan pada tembok penahan dan juga ke atas hartanah pihak ketiga. Cara-cara pemesongan dan juga tempoh masa pemesongan tersebut membayangkan bahawa kerosakan pada tembok tersebut bukanlah secara tiba-tiba (lihat perenggan 93). E F
- (5) Oleh itu, kerosakan pada kerja pembinaan tersebut di bawah seksyen 1 polisi tersebut bukanlah sesuatu yang ‘unforeseeable’ atau ‘sudden’. Oleh itu, kerosakan tersebut tidak terangkum dalam lingkungan bahaya yang dilindungi. Walaupun jika kerosakan tersebut adalah ‘sudden’ dan ‘foreseeable’, kerosakan tersebut disebabkan oleh kesilapan reka bentuk. Ini tentunya akan terangkum dalam pengecualian (c) polisi tersebut yang mana mengecualikan syarikat insurans daripada liabiliti (lihat perenggan 94–95). G
- (6) Kesilapan memilih tembok penahan dan penurapan tekanan mungkin menyebabkan pengukuhan pemendapan yang mengakibatkan kerosakan pada hartanah pihak ketiga. Pelemahan atau pemindahan sokongan tersebut merupakan kaitan terakhir dalam rangkaian kejadian dan menyebabkan kerosakan kepada pihak ketiga. Tetapi, tidak semestinya itu merupakan penyebab langsung kerugian kepada pihak ketiga tersebut. Penyebab langsung kerugian bukanlah penyebab terakhir yang mengakibatkan kerugian tersebut. Ia adalah sebab yang menjurus kepada rentetan peristiwa semulajadi yang mendorong kepada kerugian penghabisan. Memandangkan penyebab utama H I

- A kerugian tersebut adalah kesilapan memilih tembok penahan atau kesilapan reka bentuk dan penurapan tekanan, kerugian tersebut bukanlah disebabkan oleh pemindahan atau pelemahan sokongan. Oleh itu seksyen 2 terpakai. Defendan bertanggung ke atas plaintif bagi kesemua kerugian akibat daripada kerosakan pada hartanah milik
- B pihak ketiga (lihat perenggan 105, 109 & 112).]

Notes

For cases on claim for loss and damage, see 8 *Mallal's Digest* (4th Ed, 2006 Reissue) paras 61–62.

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Cases referred to

- American Home Assurance Co v Nalin Industries Sdn Bhd* [1993] 2 MLJ 409; [1993] 3 CLJ 319, SC (refd)
- British and Foreign Marine Insurance Co v Gaunt* [1921] 2 AC 41, HL (refd)
- D *Leyland Shipping Co Ltd v Norwich Union Fire Insurance Society, Ltd* [1918] AC 350, HL (refd)
- Regina Fur Co Ltd v Bossam* [1958] 2 Lloyd's Report 425 (refd)
- Yorkshire Dale Steamship Co Ltd v Minister of War Transport (The Coxwold)* [1942] AC 691, HL (refd)
- E *MK Chen (MK Chen) for the plaintiff.*
AS Lua (KF Lam with her) (Soo Thien Ming & Nashrah) for the respondent.

Nallini Pathmanathan JC:

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SALIENT FACTS

- [1] Bina Puri Sdn Bhd ('the plaintiff') undertook in 1995, the construction of a five and a half storey office building which included two levels of basement ('the contract work'). The plaintiff was the main contractor for these works. The physical construction works began in November 1995, with the substructure works, ie works beneath the ground. In January 1996, cracks appeared in buildings and drains near the work site. In March 1996, deflections occurred in the retaining wall comprising a part of the contract work. In April 1996, a crackline surrounding the site appeared. Remedial measures were undertaken after this. However in July 1996, ground heaving occurred at the nearby Malaysian Nature Society building which was reported in the newspapers. Other surrounding shophouses also experienced cracks. The local council issued a stop work order. Further remedial measures were undertaken on the advice of an independent engineering consultant. During this period, in January, March and April 1996, there was heavy rainfall.
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[2] Prior to this on 22 November 1995, the plaintiff had taken a contractor's all risks policy from the defendant ('the policy'). The policy

covered two types of damage, namely damage to the contract work in section 1 and damage to third party property, in section 2. With respect to damage to the contract work in section 1, in summary, the policy provided that the insurers agreed to indemnify the insured in the event the plaintiff should suffer 'any unforeseen and sudden physical loss or damage from any cause, other than those specifically excluded...'. For the purposes of this case, the relevant exclusion clause to section 1 states that the insurers are not liable for 'loss or damage due to faulty design' under exception (c).

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[3] As for damage to third party property, covered by section 2, the insurers agreed to indemnify the insured in respect of, inter alia, 'accidental loss of or damage to property belonging to third parties occurring in direct connection with the construction or erection of the items insured under Section 1 and happening on or in the immediate vicinity of the site during the Period of Cover'. The special exclusions to section 2 damage precluded cover for damage caused by vibration or by the removal or weakening of support or injury or damage to any person or property. However by a special endorsement 120 relating to vibration, removal or weakening of support, the section 2 coverage was extended to cover precisely such loss, ie loss or damage caused by vibration or by removal or weakening of support. But endorsement 120 contains a proviso that 'the insurers will not indemnify the insured in respect of loss or damage which is foreseeable having regard to the nature of the construction work or the manner of its execution'.

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[4] The plaintiff made a claim under the policy which was eventually rejected. In the course of arriving at its decision, expert opinions were sought and procured from the consultant engineer having conduct of the contract work, Khoo Liao, PW3 operating as CK Engineers & Associates for the plaintiff, and Christopher Treleaven, DW1, the expert consultant engineer for the defendant who then worked for Dunning Thornton Consultants Malaysia Sdn Bhd.

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[5] In summary, PW3, the expert for the plaintiff maintained that the cause of the loss and damage to the contract work, which was 'sudden' and 'unforeseeable', was the unpredictable and surprisingly heavy rainfall during the months of January, March and April 1996. As a consequence, it was contended for the plaintiff that such loss and damage fell squarely within the ambit of the policy. The defendant on the other hand, maintained that the loss and damage to the contract work was foreseeable and not sudden thereby precluding coverage under the policy. DW1 testified that the cause of such loss and damage was the wrong choice of a retaining wall which led to consolidation settlement of the ground in and around the site, as well as the installation of ground anchors at a steeper angle than that allowed for in the

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- A design. The former, it was maintained established that the design was faulty, which in turn meant that the loss was foreseeable as well as falling within exclusion (c) to section 1.
- B [6] Similarly, with regards to the third party damage, PW3 again attributed the loss and damage to the surrounding third party buildings and sites as being due to the heavy rainfall as well as pressure grouting, which was covered by the terms of section II.
- C [7] DW1 however maintained again that such third party loss was attributable to the wrong choice of retaining wall as well as the implementation of pressure grouting at injection pressures exceeding the 'self-weight' of the soil, which resulted in the heaving of ground floor slabs in third party buildings close by. This, the defendant contended meant that the loss and damage was foreseeable. As such, the proviso to endorsement 120
- D came into play, such that it was no longer liable to indemnify the plaintiff in respect of such damage. In this context, it is relevant that the plaintiff maintains that endorsement 120 in itself is inapplicable as the third party damage was not caused by vibration or by the removal or weakening of support.
- E [8] The foregoing encapsulates the conflicting contentions of the plaintiff and defendant. In so far as the quantum of damage is concerned, it is not in dispute that the sum to be awarded in the event liability under the policy arises in respect of both the contract work as well as third party property, is
- F Ringgit Malaysia one million eight hundred and ninety-one thousand, four hundred and sixty three and ninety-three cents (RM1,891,463.93).

THE TRIAL

- G [9] The trial of this matter was conducted over a period of two days on 27 July 2009 and 28 July 2009. The plaintiff called three witnesses, namely:
- H (a) PW1 — Gan Hwa Kian, the former chief operating officer, special projects of Bina Puri Holdings Bhd, the holding company of the plaintiff cum the employer of the project;
- (b) Kalsom bte Mean, an engineer from the drainage and irrigation department; and
- (c) PW3 — Khoo Liau, the engineer of the project.
- I [10] The defendant in turn, also called three witnesses:
- (d) DW1 — Christopher Treleaven, formerly a design manager/director of Dunning Thornton Consultants Sdn Bhd, an independent consulting engineer;

- (e) DW2 — Wong Cheong Yew, the senior claims manager of the defendant; and A
- (f) DW3 — Wong Mong Chong, formerly the manager of McLaren Saksama (M) Sdn Bhd, the loss adjuster appointed by the defendant to investigate the plaintiff's claims. B

[11] Both parties concurred with respect to the several bundles of documents filed, that the makers of such documents were to be dispensed with, but that the contents were in dispute. This meant that makers of the documents were dispensed with. C

ISSUES

[12] The issues that arise for consideration are as follows:

- (i) the burden of proof — with respect to the damage to the contract work under section 1 of the policy, does the burden lie on the plaintiff to show that the damage suffered is 'sudden and unforeseeable' or does it lie on the defendant to establish that it is 'not sudden and is foreseeable'? D
- (ii) what was the cause of the loss and damage to the contract work under section 1 of the policy: E
 - (a) heavy rainfall as contended by the plaintiff; or
 - (b) the wrong choice of a retaining wall and incorrect installation of ground anchors as contended by the defendant? F
- (iii) having ascertained the cause of the loss and damage to the contract work under section 1 of the policy does it fall within the terms of the all risks' policy as being 'sudden and unforeseeable'? G
- (iv) if the cause of the damage to the contract work was (b) above, does this fall within the special exclusion (c) to section 1 of the policy, ie loss or damage due to faulty design which is excluded from liability?
- (v) what was the cause of the third party loss and damage under section 2 of the policy: H
 - (a) heavy rainfall as contended by the plaintiff; or
 - (b) the wrong choice of a retaining wall and pressure grouting at an injection pressure exceeding the self-weight of the soil as contended by the defendant? I
- (vi) does endorsement 120 of the policy, namely loss or damage caused by vibration or removal or weakening of support apply to the plaintiff's

- A claim for third party damage? The plaintiff maintains that it is inapplicable as the proximate cause of such damage is the wrong choice of retaining wall and pressure grouting, not vibration or removal or weakening of support; and
- B (vii) if endorsement 120 is applicable, is liability excluded by the proviso to that section which provides that the insurer will not be liable for loss or damage which is foreseeable having regard to the nature of the construction work or the manner of its execution.
- C Issue (1): *The burden of proof— with respect to the damage to the contract work under section 1 of the policy, does the burden lie on the plaintiff to show that the damage suffered is ‘sudden and unforeseeable’ or does it lie on the defendant to establish that it is ‘not sudden and is foreseeable’?*
- D [13] Learned counsel for the plaintiff, Mr Chen Mian Kuang contended that the burden lay on he who asserts. Referring to the defence, he submitted that the burden lay on the defendant to prove the causes of damage as pleaded in the defence. He maintained that the test is not whether the plaintiff has proven its version.
- E In this context, a perusal of the defence at para 3 reveals that the defendant pleaded that it agreed to indemnify loss or damage suffered by the plaintiff as a consequence of any unforeseen and sudden physical loss or damage. The
- F defendant went on to set out the exclusions to such cover in paras 3(b)(1), (2), (3) and (4). Learned counsel for the plaintiff submitted therefore that as the defendant maintained that the loss and damage suffered was ‘not sudden’ and was ‘foreseeable’, the burden lay upon the defendant to establish this contention.
- G [14] Learned counsel for the defendant, Ms Lua Ai Siew on the other hand, maintained that the plaintiff as the insured, bore the burden of establishing that its claim fell within the peril insured against. She however conceded that the onus of proving that such event falls within an exclusion or exemption
- H would lie on the defendant.
- I [15] This issue was considered in *American Home Assurance Co v Nalin Industries Sdn Bhd* [1993] 2 MLJ 409; [1993] 3 CLJ 319 where the Supreme Court held that it was incumbent on the plaintiff as insured to establish that the loss it suffered arose out of a peril covered by the policy. In that case the insured had installed a steam boiler in its plant and taken out a policy of insurance with the insurers to provide cover against loss resulting from any ‘accident’. ‘Accident’ was defined in the policy as:

a sudden and accidental breakdown of the Object or a part thereof which manifests itself at the time of its occurrence by physical damage to the Object that necessitates repair or replacement of the Object or part thereof but accident shall not mean:

- (a) Depletion, deterioration, corrosion, or erosion of material
- (b) Wear or tear

[16] In these circumstances, the Supreme Court held that it was incumbent on the plaintiff to establish that the loss it suffered arose out of an 'accident' to an object covered by the policy. Reliance was placed on *Regina Fur Co Ltd v Bossam* [1958] 2 Lloyd's Report 425, where Evershed MR held that the onus of proving that its case fell within the policy, remained at all times with the insured. In short the position in law is trite that the burden lies on the plaintiff to establish that it comes under the peril insured against. The onus of proving that the loss was caused by a peril insured against lies on the insured (*British and Foreign Marine Insurance Co v Gaunt* [1921] 2 AC 41). If he does not discharge the onus, his claim must fail.

[17] In the instant case, what is the peril that the plaintiff is insured against? And what does the plaintiff have to establish to show that it comes within the peril insured against in the policy?

[18] In response to the first question, section 1 of the policy provides that:

Insurers hereby agree with the Insured that if at any time during the period of cover the items or any part thereof entered in the Schedule shall suffer any unforeseen and sudden physical loss or damage from any cause, other than those specifically excluded, the Insurers will indemnify the Insured in respect of such loss or damage as hereinafter provided by payment in cash, replacement or repair ...

As such, it is evident with respect to the contract work in section 1 of the policy that the peril the plaintiff is insured against is 'any unforeseen and sudden physical loss or damage from any cause other than those specifically excluded ...'

[19] It then follows with respect to the second question that the plaintiff has to establish that it comes within the peril insured against in the policy, namely that it has suffered unforeseen and sudden physical loss and damage from any cause. As for those causes specifically excluded it follows that it will be incumbent upon the defendant to establish that the causes fall within the exceptions set out in the policy which excludes liability.

[20] It has been said that in the case of an 'all risks' policy, it is sufficient to show that the loss was caused by a casualty or something accidental, or in

- A this case unforeseeable without proving the exact nature of the casualty or accident which caused the loss (*British and Foreign Marine Insurance Co v Gaunt*). In conclusion, the plaintiff's contention that the burden falls upon the defendant to show that the damage and loss suffered was not sudden and was indeed foreseen does not reflect the position in law. The burden falls on the
- B plaintiff to show that the loss and damage suffered was sudden and unforeseeable. If the plaintiff succeeds in so establishing it will follow that the assertion by the defendant in para 3(b) whereby it is pleaded that the damage is both foreseeable and not sudden will not be established. In other words, the defendant's assertion in para 3(b) does not derogate from the well established
- C principle that the onus of proving that the loss was caused by a peril insured against, lies on the claimant, ie the plaintiff here.

- [21] In the context of the evidence led at trial, this means the evidence adduced on behalf of the plaintiff to the effect that the damage was sudden and unforeseeable, will be weighed against that led on behalf of the defendant to the effect that it was foreseeable and not sudden. It will then be considered whether the plaintiff, on a balance of probabilities, has discharged the onus of proving that the loss and damage was sudden and unforeseeable.
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- E Issue (2): *What was the cause of the loss and damage to the contract work under section 1 of the policy: (a) heavy rainfall as contended by the plaintiff; or (b) the wrong choice of a retaining wall and incorrect installation of ground anchors as contended by the defendant?*

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- [22] In order to ascertain the cause of the loss and damage to the contract work under section 1 of the policy, it is necessary to consider the competing testimonies of Khoo Liau, PW3, the consulting engineer for the project as well as that of the defendant's expert consulting engineer, Christopher Treleaven, DW1. The loss and damage to the contract work under section 1 of the policy relates primarily to the loss and damage to the temporary retaining wall that had been built to allow excavation for the purposes of building the basement of the building.
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- H THE EVIDENCE OF THE PLAINTIFF'S EXPERT, KHOO LIAU, PW3

[23] Khoo Liau, in his witness statement testified as follows:

- I (a) He was the engineer for the project representing his firm of CK Engineers & Associates. He was engaged by Bina Puri Holdings Bhd, the employer. The contractor was Bina Puri Sdn Bhd.
- (b) As the consulting engineer, he monitored and inspected the works. He was on site three times a week, and additionally if there was a problem.

- (c) The physical construction works began with the substructure works beneath the ground. In November 1995, the contractor started the piling works and installed the temporary retaining wall structure. The purpose of the wall was to retain the earth to enable excavation of basement works. A
- (d) The contractor used soldier piles as the temporary retaining wall structure after consulting with his firm. It is significant that initially sheet piling was proposed by PW3's firm but that he later acquiesced to the use of soldier piles. B
- (e) Between January 1996 and April 1996, cracks appeared in buildings and drains near the site. As outlined above, first the left rear section, followed by the rear centre section and the mid left section all started deflecting inwards. In April 1996, the rear right section deflected inwards too. Next a crackline surrounding the site appeared. C
- (f) In January, March and April 1996, there was very heavy rainfall. D
- (g) As a consequence of the damage sustained by the retaining wall structure as well as third party damage, on 22 April 1996, remedial grouting works commenced. However as outlined above, ground heaving occurred on 11 July 1996 whereupon an independent engineer was called in to suggest remedial measures. Solutions were suggested including the installation of additional ground anchors and additional pressure grouting as well as backfilling the slipped area with sand. Next sheet piles or suitable structural walling system was recommended. E
- [24] PW3 explained what soldier piles were and illustrated them. He explained that ground anchors were installed as part of the original soldier pile system. By contrast he also explained what sheet piles are and illustrated them. F
- [25] He was then asked to testify as to the cause of the damage suffered. This is what he read from his witness statement: G
- ... The partial failure of the wall was caused by excessive rainfall. Such rainfall caused build up of a high water table in the ground. The high water table softened the retained earth, causing the ground anchor to fail, leading to movement in some parts of the wall and hence partial failure of the wall. The damage to surrounding property due to subsidence was caused by the continuous escape of *finer* due to inclement weather/heavy rainfall. Some damage was also caused to surrounding property due to remedial grouting carried out by Bina Puri. Grout was injected into the retained earth area to strengthen and stabilise the retained earth. However the pressure in the ground caused by the injection of grout resulted in the heaving of some ground slabs of the nearby buildings. H
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- A** [26] On the basis of the foregoing, PW3 went on to state that the damage to the soldier pile wall was therefore not foreseeable. He explained that as the damage was caused by excessive rainfall, it was unforeseeable that such damage would occur. To support his contention that the rainfall was excessive, PW3 relied on rainfall records from the Jabatan Pengairan dan Saliran Malaysia for the months of January, March, April and June 1996.
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[27] A perusal of these records which are annexed to PW3's report at pp 85–88 of the NAB1 shows the following:

- C** (a) For the month of January 1996, the rainfall was 209.5 inches while the mean for a period of twenty three years prior to and immediately after January 1996 was 93.8 inches. It was in fact the heaviest rainfall for that month in that period of twenty three years;
- D** (b) For the month of March 1996, the rainfall was 257.5 inches. The mean for the same period of twenty three years was 201.6 inches and the heaviest rainfall during that time was 432.6 inches;
- (c) For the month of April 1996, the rainfall was 367.5 inches while the mean for a period of twenty three years prior to and after April 1996 was 258.8 inches. The heaviest rainfall during the term of twenty three years was 469.0 inches; and
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- (d) As for the month of June 1996, the rainfall was 359.5 inches while the mean for the term of twenty three years was 162.0 inches. The rainfall that month comprised the heaviest rainfall for the term of twenty-three years.
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- G** [28] From the foregoing it appears that while the rainfall for the months of January and June were indeed the highest in the period of 23 years preceding and immediately after the year 1996, the months of March and April revealed that while the rain was heavy, it was not excessively so, as the mean readings during that period were relatively high.

- H** [29] In summary therefore, PW3's opinion was that the damage to the contract works, namely the deflection of the retaining wall leading to its eventual collapse, as well as the damage to the third party property was caused by the excessively heavy weather which led to an increase in the ground water table in the ground. This high water table in the ground led in turn to a softening of the earth, which caused the ground anchors to fail and led to movements in the wall and partial failure.
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[30] A significant point to note about PW3's evidence as the plaintiff's expert is as follows: PW3 was asked to explain what he meant by the use of the word 'fines' in the expert report prepared by him. In response, there was

a very long pause. Finally PW3 informed the court that he did not know the meaning of the word 'fines'. This was inexplicable given that the report was supposed to have been written by him. In the course of reading his witness statement, it appeared to the court that PW3 had difficulty reading the same. This brought into focus the issue of whether the contents of the witness statement really reflected statements prepared by him or at his behest. From PW3's command of the English language it was difficult to comprehend how he could have written such a complex report. It could not be said that he was comfortable with the use of the language in the report. Neither did he appear to be familiar with the same. In response to a question from the court however, as to whether or not he had written the report, he was quick to respond that he had.

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[31] In the course of cross-examination, PW3 confirmed that his prior and present experience with buildings including basements comprised one project. He stated that he was responsible for the design of the temporary retaining wall system for the basement. PW3 conceded that he had originally proposed sheet piles for the temporary retaining wall system, but had agreed to the change to a soldier pile system at the request of the contractor. The reason he gave was that there would be considerably less vibration with the latter system which would not affect neighboring properties. The other advantage was that soldier pile walls were 'faster' and that materials for this system could be reused.

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[32] The soldier pile system which replaced the originally planned sheet pile system was designed by one V-Pile Systems Sdn Bhd which is a specialist subcontractor of the plaintiff. PW3 confirmed that he had approved the calculations for the design of the temporary retaining wall.

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[33] PW3 was unable to explain how many types of retaining walls there were to choose from. He did however, illustrate the difference between the soldier pile system and the sheet pile system. The soldier pile system has 'leggings' as marked. The leggings extend to the ground, but do not exist beneath the ground. The support provided by the leggings therefore stops at the ground level. This is to be contrasted to sheet piles where the entire sheet extends down to the level to which the piles have been driven. It therefore provides a non-permeable sheet both above and below the ground.

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[34] It was put to PW3 that the soldier pile system is highly permeable because the legging timbers are slightly shorter than the space between the piles. In other words, it is possible for water to escape through these gaps. While PW3 conceded that there is a gap between the timbers making it more

- A permeable, he disagreed that there was a gap between the end of the timber legging and the pile. In essence PW3 agreed that the soldier pile system is permeable.
- B [35] PW3 also agreed that the following considerations had to be taken into consideration when designing a retaining wall:
- (a) the strength of the wall system;
 - (b) the ground water table and settlement;
 - (c) deflection; and
 - (d) loss of fines which she explained as 'minor sand through which water can seep through'; PW3 agreed.
- D [36] He also agreed that the soil investigation tests done prior to the commencement of works showed a high water table of 1.7 meters. The nature of the soil he conceded was loose sand and silt which is highly permeable. He was then asked to explain to what depth the soldier piles would have been placed. It was then put to him that the ground water level was above the excavation level. He agreed that this was the case. He also conceded that the construction of the basement required the lowering of the ground water level inside the excavated area. Given the use of the soldier pile wall system, it was then put to PW3 that when the water level inside the excavation was lowered, the water level outside the excavation would also be lowered. PW3 disagreed
- E with this contention. It was then put to him that the water level outside the excavation would be lowered by reason of water seeping downwards or laterally. PW3 answered that 'it is not 100%. Underneath can come up a bit, but not 100%' which appeared to suggest that some small quantity of water could seep through but not all of it. He was however unable to estimate how
- F much amounted to 'a bit'. In short from this part of the evidence, PW3 conceded that the water level outside the excavation being higher than that within the excavation (as it is constantly removed to keep the excavation site dry), water would 'sometimes' move to the excavated site from the retained side by moving downwards and upwards. When it was then put to him that
- G it was not in fact 'sometimes' but all the time because the soldier pile system is not water proof, PW3 agreed.
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- I [37] It was then put to him that it was foreseeable that loose sand would settle if ground water levels are significantly lowered outside the work area, unless) a rigid retaining wall system is employed. PW3 agreed with learned counsel for the defendant. In short therefore PW3 agreed that the soldier pile system was permeable, allowed water to seep from the retained earth side to the excavated site, thereby lowering the water table level on the retained side of the wall, ie outside the work area. As a consequence there would be

settlement or lowering or consolidation of earth on the retained side. Finally, he agreed that such settlement was foreseeable. A

[38] It was then put to him that this significant consideration, ie ground settlement by reason of the lowering of ground water levels outside the excavation site, had been overlooked in the temporary work design. PW3 disagreed that this was so after a long pause. This is the evidence in court on these issues: B

Q: I put it to you that it is foreseeable that loose sand will settle if ground water levels are significantly lowered outside the work area unless a rigid retaining wall system is employed. C

A: Yes

Q: I put it to you this important consideration had been overlooked in the temporary work design. D

A: Long pause. I do not agree.

Q: In fact this is evident from your reports dated 23 August 1997 (NAB1 at pp 20–40) and your second report dated 2 April 2001 (NAB1 at pp 110–130) as well as your third report dated 4 August 2006 (NAB1 at pp 67–68). Do you agree that it is foreseeable from what you wrote in your report? (see p 112 at para 4.1 — it shows that he has foreseen settlement). E

A: Yes.

(In this context, para 4.1 of the report reads as follows: ‘Ground consolidation settlement will definitely occur during the excavation and dewatering work. The ground settlement should be within the tolerance level and this will not cause any damage to the neighboring building’.) F

Q: And at p 112 of the NAB1, what is your basis for saying the ground settlement should be within tolerance level and that this will not cause any damage to the neighboring building? G

A: Long pause. I can’t answer the question.

Q: Mr Khoo from this sentence as well, how much ground settlement would be within the tolerance level? H

A: I am unable to answer the question.

Q: In fact ground settlement has not been addressed in the design of this soldier pile wall system.

A: I disagree. I

[39] Apart from the issue of whether or not ground consolidation and settlement was foreseeable, it was evident from PW3’s answers that he did not

- A fully comprehend, and was therefore unable to explain the statements made in the report purportedly prepared by him. It was difficult to accept that he was the author of the report, given his complete lack of comprehension of the material parts of the same.
- B [40] It was next suggested to PW3 that the loss and damage was not sudden. He disagreed. He reiterated that the damage was caused by the heavy rainfall. When it was put to him that in his evidence he had testified that there was heavy rainfall in January to March 1996, but that in his report he had stated that the heavy rainfall occurred in October and November 1995
- C and January 1996, and that as such, his statements were inconsistent, PW3 agreed.
- D [41] PW3 also agreed that the primary design requirements for the retaining system are to provide a solution with reliable strength and avoid altering the ground conditions outside of the excavation that may result in damaging settlement under adjacent construction. When however it was put to him that the partial failure of the wall was not caused by excessive rainfall, he maintained that it was, as such rainfall would cause the water table to become higher.
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- F [42] It was put to PW3 that as he did not understand the meaning of fines, he could not possibly have come to the conclusion that the damage to surrounding property was due to subsidence caused by 'the continuous escape of fines due to inclement weather', when he did not even understand what 'fines' meant. PW3's response was that he was old and so could not recall these matters immediately. However he conceded that the fines would escape with the water to a lower area or level, namely the excavation area and would be pumped out from the site during the de-watering process.
- G [43] Next, it was put to PW3 that the rainfall data he relied on does not show that there was excessive rainfall for the months mentioned by him. He agreed with this. He went on to agree that heavy rain is foreseeable in Malaysia which is a wet, tropical country.
- H [44] As for the competing advantages of a soldier pile wall to a sheet pile wall, PW3 maintained that both were not waterproof. When he was asked whether he was stating that there is no proper way to design a waterproof wall retaining system because of the rainfall and the ground water table, he
- I conceded that given the rainfall pattern he did not know how this could be done. He also agreed that the ground anchor was installed at a steeper angle than that in the design. Finally it was put to him that the design for the temporary retaining wall system was defective. After a long pause, he agreed, stating simply, 'yes'.

[45] In summary, PW3 did not withstand cross-examination credibly. He conceded that the temporary retaining wall system design was defective, that rain was foreseeable and in essence agreed with the mechanism by which the ground water table on the retained earth side of the wall would initially be higher than the excavation site by reason of de-watering, as a consequence of which water would move from a higher level to a lower level. This was possible by reason of the permeable soldier pile system of temporary retaining wall employed which allowed seepage of water both downwards/vertically as well as laterally. As more water was pumped out of the excavated site for working purposes, more water would move from the retained earth side to the excavated site through the escape of fines through the silty permeable soil that comprised the ground on which the project was undertaken. As a consequence of the movement of water and fines, the ground water level on the retained earth side was lowered, and as such the ground level also 'settled' or consolidated or was lowered slightly, causing the cracks in the walls and the deflections in the temporary retaining wall, ie the contract works.

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[46] Significantly as pointed out earlier, PW3 was not familiar with his own report, as evidenced by his inability to escape the meaning of words used in the report and the inability to explain the reasoning in his report. The inescapable conclusion that followed was that PW3 was not the author of the report stated to be prepared by CK Engineers & Associates.

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THE EVIDENCE OF THE DEFENDANT'S EXPERT, CHRISTOPHER TRELEAVEN, DW1

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[47] Between 1995 and January 2000 DW1 was the design manager/executive director in a firm of engineering consultants known as Dunning Thornton Consultants Sdn Bhd. It offered a range of services including the investigation of, and reporting on construction failures in Malaysia. The firm had been engaged by McLaren Saksama (M) Sdn Bhd, the loss adjusters to provide a report in respect of a partial failure of temporary works system relating to the project and associated collateral damage to neighbouring properties.

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[48] DW1 clarified that he had previously investigated some 14 failures for the loss adjusters of which fifteen were foundation or ground related.

[49] DW1 conceded at the outset that he did not visit the site. The reason why this was so was because when Dunning Thornton was appointed to prepare the report, the claim had become historic, ie relatively old. The investigation trail was obscured by the completed remedial works and ongoing construction which had proceeded since the claim was made. His

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A report was therefore the outcome of a desk study of technical information and correspondence provided to DW1 by the loss adjuster.

[50] DW1 explained that the aim of the report he prepared was to examine the documentary and photographic evidence and attempt to determine whether any or all of the damage could have been foreseen and prevented by an alternative course of action to that adopted at the site. DW1's conclusions as to the cause of the damage to the contract works and third party property is summarised at the end of his report as follows:

- C (a) The substitution of a soldier pile retaining wall for sheet piling, which allows the ground water level around the site to be lowered when the excavation is pumped out. The results of this action are consolidation settlement and related damage to services and structures nearby.
- D (b) Pressure grouting of the ground at an injection pressure exceeding the soil overburden pressure or self weight. The result of this action is heaving of the ground floor slabs in buildings close to where pressure grouting has been carried out.
- E (c) Possible installation of ground anchors at a steeper angle than allowed for in the design. The consequence of this action is a severe reduction in the load carrying capacity of the tied back wall system.

[51] DW1 went on to explain that he did not agree with the report prepared by CK Engineers, ie PW3's report because the performance of a soldier pile wall compared to a sheet pile wall given the materials at the site was fundamentally different. CK Engineers had maintained that it would not have made a material difference whether soldier pile or sheet pile walls were used. DW1 went on to illustrate as well as explain the differences between these two types of retaining wall systems:

G An interlocked sheet pile wall, while not entirely watertight, is far more so than a soldier pile wall because only a small amount of ground water can leak into the excavation through the excavated face once it is de-watered. Below the excavation level, the sheet pile wall has the same amount of water tightness for its entire depth.

H A soldier pile wall has no water retaining capacity below the excavation because the timber lagging can only be placed to basement level, not below.

I This is important because the soils at the site were known to be loose sands and loose silty sands. This means that water outside the excavation can easily flow in the direction of any ground water level draw down when the basement excavation is pumped dry, resulting in a lower ground water table outside of the excavation and the loss of the finer silty material (fines) from the retained soil. Settlements at the ground surface outside of the excavated area due to lowering of the water table in loose sands and loss of fine material (from outside the excavation), are well documented phenomena in engineering test and therefore foreseeable.

[52] In essence, DW1 explained that soldier piles differed from sheet piles in that soldier piles comprised piles with timber legs or legging placed between two rods or piles, with small gaps in between. The timber leggings however, only extend down to basement level, not below. The leggings do not continue below that level. Whereas with sheet piles, they comprise continuous sheets of steel which not only extend from one rod or pile to another but also extend as a continuous sheet below the ground. As such it would be considerably more difficult, and I accept this to be so, for water to permeate across a continuous steel sheet pile wall than a soldier pile wall.

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[53] As such, given the nature of the soil at the site, which was ascertained as a consequence of soil studies, the engineer and contractor were apprised of the fact that the soil comprised loose sands and silt. Water outside the excavation site, or on the retained earth side, therefore easily flowed with the fines to the excavated site. When the basement excavation site is pumped dry, then this would result in a lowered ground water table on the retained earth side or the side outside the excavation site. This would be accompanied by the loss of fines, or fine silty material from the retained earth side of the wall. This in turn would result in settlement of the soil at the ground surface outside of the excavated area, or on the retained earth side. This would, in turn, result in the cracks and other damage including that resulting in the deflection of the wall. DW1 described this as a well documented phenomena in engineering texts and produced an excerpt from *Foundation Design and Construction* (6th Ed) by MJ Tomlinson in support. Accordingly, as such ground settlement for this reason was a well-documented phenomena, he testified that it was foreseeable. DW1 maintained that the design of the temporary retaining wall system had not taken into consideration the factor of 'ground settlement' described here.

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[54] On the issue of excessive or heavy rainfall, DW1 disagreed that it was excessive during the construction period of the wall. He conceded that only the total for January 1996 was the maximum recorded. Looking at the data for the period from December 1995 to April 1996 he maintained that the monthly totals for the period relating to the claim were frequently exceeded in previous years at the corresponding time frame. As such, he opined that he did not regard the rainfall as being excessive.

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[55] DW1 also explained with regard to his conclusion on the installation of ground anchors at an angle steeper than that stipulated in the design that this conclusion had been made from photographs taken of such anchors at the site. He conceded that he had simply extrapolated the lines from the photograph to roughly establish the angle of the ground anchor, and accordingly many assumptions were made.

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- A [56] In cross-examination DW1 disagreed that the soldier pile failure was due to excessive rainfall. He was then cross-examined on his conclusion on the installation of ground anchors. He agreed that he was unable to tell from the photographs from which he had reached his conclusion whether those
- B anchors were the originally installed ground anchors or the additional ground anchors installed as a remedial measure. He further confirmed that his assessment of the angle of installation from the photographs was unscientific. As such doubt is thrown on DW1's conclusion that the installation of ground anchors at angles steeper than that required by the design, contributed towards the failure of the wall.
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- D [57] Next, it was put to him that even accepting his calculation of the anchor inclination, the factor of safety for the wall was 1.67, which exceeded a factor of safety of 1. A factor of safety of one or less would result in a failure or collapse of the wall. DW1 agreed. In short learned counsel for the defendant was putting to DW1 the fact that despite the angle at which the anchors had been installed, the factor of safety for the wall still exceeded 1.67 which meant that the wall would not fail notwithstanding the installation of ground anchors at that inclination. However, DW1 went on to add that by
- E reason of the angle of installation of the ground anchors, the amount of load or demand placed on the anchor by the retained soil pushing into the wall was far in excess of that which it was designed to resist. This would cause the wall to tend to fail. He did however concede that he did not physically measure the actual load on the wall in the instant case as he was only
- F appointed 18 months after the event. On this issue of ground anchors, it was put to DW1 that his conclusion that the ground anchors were possibly installed at a steeper angle than that allowed for in the design was without basis. He disagreed.
- G [58] Next, it was suggested to DW1 that his conclusion about the substitution of a soldier pile retaining wall for sheet piling resulting in consolidation settlement and 'related damage to services and structures nearby' pertained to damage to third parties rather than to the retaining wall.
- H DW1 agreed with this suggestion. He disagreed however with the suggestion that such third party damage was caused by the use of soldier piles rather than sheet piles.
- I [59] It was next put to DW1 that even if sheet piles instead of soldier piles had been used, it would still have been easy for water to seep out given that the soil at the site was loose and permeable. DW1 responded by pointing out that if the problem of water seepage, given the nature of the soil had been given due consideration, then sheet piles would have been used to greater depth, or made longer so as to reach bedrock at 20–25 meters below the

surface, thereby greatly reducing water seepage. However DW1 agreed that such seepage would not have been completely alleviated.

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[60] In the course of re-examination, DW1 referred to his report where he pointed to what he termed the contributing factors to the partial collapse of the wall. For purposes of expediency the relevant portion of the report is reproduced here:

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... We consider that there were *two contributing factors to partial collapse of the wall. Firstly the ground anchor installation seems to have been carried out at a much steeper angle than allowed for in the design*, resulting in a higher resultant force in the stressed anchor to achieve the same degree of restraint. *Secondly the original calculations made no allowance for ground water to be retained as part of the wall design*. This aspect in itself is a reasonable representation of the conditions at site, since both the soil and the constructed wall are sufficiently permeable so that the ground water levels would be equalized on the excavated and retained sides, once dewatering was carried out on the excavated side of the wall. A subsequent analysis of the wall was conducted assuming that pressure grouting was 100% effective and ground water returned to its original level in the retained soil. *The resulting increase in the load on the wall was found to be sufficient to cause the wall to fail, irrespective of whether any local pressure increase caused by grouting added to the loads on the wall.* (Emphasis added.)

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[61] On the basis of the foregoing, DW1 concluded that given the causes for the failure of the wall and the third party damage as set out above, such damage was 'to some extent foreseeable and preventable'.

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[62] DW1 went on to state in re-examination that his primary finding was that the choice of a permeable retaining system resulted in all the damage that occurred. He explained this by stating that if a non-permeable wall system had been installed, the only water pumped out would have been that contained in the excavation. Whereas, because the retaining system was permeable, the volume of water pumped out was both that within the excavation as well as ground water from the surrounding area outside of the excavation on the other side of the retaining wall, with the result that the ground water level on that side was lowered.

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[63] After re-examination and other witnesses had been called for the defence, learned counsel for the plaintiff, Mr MK Chen made an application to recall DW1 for clarification of certain matters arising out of his answers in re-examination. The court allowed this application in view of the technical nature of the expert's evidence. Mr MK Chen then sought clarification on DW1's statements in his report about the two contributory causes for the collapse of the wall. He put to DW1 that although the design did not allow for ground water to be retained the design was not defective because, as stated

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- A by DW1 in his report, it was a reasonable representation of site conditions. DW1 did not agree with this contention. It was next put to him that based on what he had said in his report, it was pressure grouting that had caused the wall to fail. DW1 did not agree with this suggestion either. To the question that pressure grouting did not cause the wall to fail, DW1
- B responded that he was unable to give a yes or no answer because the information he had when preparing the report was not conclusive. He however disagreed that the design of the soldier pile wall did not cause the wall to fail. In other words, his evidence was that the design of the soldier pile wall had contributed to the failure of the wall. It was then put to him that
- C based on the conclusions in his report, the only thing that caused the wall to fail was the ground anchors being placed at too steep an angle. To this too, DW1 disagreed. He concluded by stating that the soldier pile wall did not perform satisfactorily because it caused third party damage and also fell itself.
- D WHICH OF THE EXPERT'S VERSIONS IS PREFERRED AS DEMONSTRATING THE CAUSE OF THE FAILURE OF THE RETAINING WALL SYSTEM AS WELL AS THIRD PARTY DAMAGE?
- E [64] The evidence of both experts has been set out in extenso above. At the risk of oversimplifying their respective testimonies, it appears that PW3 for the plaintiff maintains that the failure of the retaining wall system and third party damage was caused by the excessive rainfall during the relevant period. Additionally his testimony was that pressure grouting caused the heaving of
- F ground floor slabs in neighboring buildings, ie third party damage.
- [65] DW1 for the defendant however attributes the cause of such damage to a failure to take into consideration the necessity for the retention of ground water as part of the wall design as well as ground anchor installation. Both
- G experts agree that the pressure grouting caused the heaving of ground floor slabs. The failure consider ground water levels in the design of the wall, DW1 contends, resulted in ground settlement causing cracks to appear in the areas surrounding the site as well as failure of the wall, while the flawed installation of the ground anchors resulted in a higher force being placed on the stressed
- H anchor to achieve the same degree of restraint. This therefore contributed to the failure of the wall. Which expert's report is preferred? The choice between the testimony and reports of PW3 and DW1 is crucial because it determines the factual basis for the cause of the failure of the wall and the third party structures surrounding the site. It determines whether such damage is 'sudden and foreseeable' and whether the exclusion clauses come into play.
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- [66] The difference between the oral testimony of the two experts during trial was stark. PW3 was reticent and hesitant when reading out his testimony during examination-in-chief. He appeared to have difficulty with the

language and it was apparent to the court that if not for the witness statement which had been well drafted and incorporated all the salient portions of his report, PW3 would have had difficulty in presenting his opinion for the cause of the failure of the retaining wall system and surrounding third party damage. The words did not appear to be familiar to him. This impression was fortified in the course of cross-examination when PW1 was unable to explain (as shown above) many of the questions put to him. He was well able to illustrate the difference between a soldier pile retaining wall system and a sheet pile system, but when it came to explaining precisely how the excessive rainfall had caused such failure and damage, PW3 merely relied on and read from the report that had been prepared by his firm. His hesitancy was further illustrated by his inability to explain the meaning of the word 'fines' used in his report until after a break in proceedings. There were long pauses in the course of his cross-examination when it was evident that he had difficulty both following the questions and articulating or formulating an answer. This is evidenced by his responses which contained no explanations but were confined to simple 'yes' or 'no' answers.

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[67] His testimony on the stand is in direct contrast to the report prepared by the firm. After he stated that he did not know what 'fines' meant, the court asked him whether he was the author of the report. PW3 assented quickly. However the use of the complex language in the report is completely at odds with the witness who gave evidence. It was highly improbable and difficult to reconcile the authorship of such an article with PW3, who had difficulty speaking and was hesitant in his responses. The lacuna in his evidence was his failure to explain to the court precisely how the excessive rainfall had caused the wall to fail and the third party damage to occur.

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[68] In order to comprehend his stance, it was necessary to refer to the witness statement which appeared to be prepared on the basis of his expert report. This is how the causation issue, namely how the excessive rainfall giving rise to the damage was explained:

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It is apparent from the relevant evidence and actual site conditions that the partial failure of the temporary works could not be foreseen. The cause of the partial failure of soldier wall is due to high water table build up as a result of continuous heavy rainfall during the construction stage in the months of November, December 1995 and January 1996 (refer to the rainfall record issued by the Jabatan Pengairan dan Saliran in Appendix B). The high water table softened the retained and excavated earth. This caused the failure of the ground anchor which led to localised movement and hence partial failure of the soldier pile wall.

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The damage to surrounding property due to subsidence was caused by continuous escape of fines as a result of inclement weather.

A [69] It was in this context that PW3 was unable to explain what was meant by 'fines'.

B [70] PW3 also confirmed in the course of cross-examination that Malaysia is a wet tropical country and heavy rain is foreseeable. This deprecated somewhat from the stance taken in the report that the rainfall was excessively heavy and therefore unforeseeable. On a perusal of the totality of his evidence, it was not clear that the heavy rainfall was unforeseeable. He appears to have conceded that such rainfall was foreseeable. The evidence of C PW2, the witness from the drainage and irrigation department was not useful either because she too maintained that she was unable to comment as to whether or not the rainfall during the material period was excessive. This, notwithstanding that she analysed rainfall data as part of her work at the time.

D [71] It is the plaintiff's case that the heavy rainfall caused the build up of a high water table which softened the retained and excavated earth which led to the failure of the ground anchor, giving rise to a partial failure of the soldier pile wall. PW3 however failed to explain or refute or address DW1's evidence E that with regards to the rainfall at the material time, the monthly totals for that period were frequently exceeded in previous years through the corresponding time frame. In other words, he failed to address the defendant's reasonable contention that on a perusal of the rainfall records for the previous years, the rainfall during the material period could not be classified as being F unduly excessive.

G [72] PW3 also failed to address DW1's evidence that had sheet piling been used instead of soldier piles the occurrence of such heavy rain would not affect the performance of a far more water tight retaining system. In this context, it is pertinent that PW3 conceded during cross-examination the following matters which made significant inroads into his opinion as to the cause of the loss and damage:

- H (a) PW3 had agreed to the change from sheet piles to soldier piles at the behest of the contractor;
- (b) in designing wall systems, consideration had to be given to factors such as 'ground water table and settlement' as well as 'loss of fines';
- I (c) similar considerations were to be given to the design of permanent retaining wall system and temporary retaining wall systems;
- (d) the soldier pile system is permeable;
- (e) there was no timber lagging for the soldier piles beyond the depth of 5.7 metres;

- (f) the nature of the soil revealed from investigation tests conducted revealed that there was loose sand and silt present and that the ground water table was above the excavation level; A
 - (g) the construction of the basement requires the lowering of the ground water table inside the excavated area; B
 - (h) the level of the ground water table outside the excavation could be lowered by seepage downwards or laterally through the permeable soldier pile system;
 - (i) PW3 conceded that he had foreseen settlement to the ground outside the excavation but this was not of concern because it should be within tolerance level and would not cause damage to third parties' property; C
 - (j) PW3 could not explain what such tolerance level was, neither could he explain why such settlement would not cause damage to third parties' property; D
 - (k) PW3 agreed (as later explained by DW1) that fines from the retained side of the wall would seep along with the water under the timber lagging and enter the excavation site, after which it would be pumped out to enable work to be carried out on the excavated site; in short, he agreed with DW1's analysis of the lowering of ground water table level in the area outside of the excavated site; E
 - (l) PW3 agreed that a properly constructed sheet pile system would have provided a water proof barrier to prevent seepage of water from the retained earth side into the excavated area; and F
 - (m) finally, PW3 admitted that the design of the soldier piling system was defective.
- [73] Taken in toto therefore, PW3 effectively conceded that a soldier piling system is permeable and allows water seepage unlike the sheet piling system. Significantly, he conceded that the considerations to be accorded to the design of wall systems included the ground water table and settlement as well as loss of fines. In other words, he accepted that these factors are a part of the design of wall systems. He also agreed with the mechanism later explained by DW1 to the effect that the water table on the retained side of the wall would be lowered as a consequence of seepage through the soldier pile system coupled with the loss of fines, which would in turn be pumped out. In other words, he conceded that as a result of the lowering of the ground water table on the retained earth side, settlement of the ground would occur, giving rise to the damage seen. His statement that he had foreseen such ground settlement shows that it is untenable to maintain that ground settlement per se, was unforeseeable. However he maintained that such settlement was within tolerance levels and would not cause damage to neighboring G
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- A** properties. This statement however was not explained. PW3's final concession that the soldier piling wall system was defective provides clear basis for the conclusion that the cause of the damage was the defective soldier piling wall system in that it failed to take account of the lowering of ground water table levels on the retained earth side of the excavation. This failed to support the
- B** plaintiff's case that the damage was both sudden and unforeseeable as it was caused by rainfall. PW3's evidence as a whole did not fortify or provide substantial basis to the plaintiff's claim that the cause of the damage was heavy rainfall.
- C** [74] What then of DW1's evidence? His expert testimony has been heavily criticised by the plaintiff on numerous points. To begin with, it is pointed out that DW1 never visited the site and physically inspected the same or carried out investigations there, as a consequence of which his expert opinion is untenable. DW1 readily accepted and indeed pointed this out at the outset
- D** of his report, explaining that his services were only retained long after the incident occurred, as a consequence of which remedial works and ongoing construction had obscured the investigative trail. His report and evidence must therefore be considered within these confines.
- E** [75] In this context, learned counsel for the plaintiff points out that DW1:
- F** (a) did not measure the angle of installation of the ground anchor himself thereby throwing doubt on the accuracy of his conclusion that such installation was defective and resulted in increased pressure on those anchors causing them to fail;
- G** (b) did not verify the soil character himself;
- (c) relied on an earlier report by one Endeavour Consult but reached a different conclusion; neither did the defence call Endeavour Consult;
- H** (d) admitted that vibration from the installation of sheet piles causing damage to third party property was a valid concern; and
- (e) initially maintained that the wrong choice of wall resulted only in third party damage but subsequently in reexamination tried to expand this to include damage to the wall.
- I** [76] With respect to (a), DW1 conceded in cross-examination that he had not personally measured the angle of installation of the ground anchors. He also stated that the methods he had utilised were 'unscientific'. He had arrived at his conclusions from a rough extrapolation from photographs taken at the site. He was also unable to ascertain whether or not the ground anchors he examined on the photographs were the original anchors or remedial ground anchors put in after the damage had commenced. In these circumstances, his conclusions on this issue have to be considered with circumspection.

[77] As for (b), the fact that he did not verify soil for himself is neither significant nor relevant, as soil tests were undertaken and the results available for all parties to consider. Further PW3 himself conceded that the soil was permeable comprising soft sand and silt.

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[78] With respect to his reliance on Endeavour Consult's report as set out in (c) above, the following is what DW1 relied on:

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We concur with the findings of the report prepared by Messrs Endeavour Consult that the initial settlement related damage was caused by increased consolidation settlement of the ground around the site, brought about by lowering of the ground water table level which occurred as water was pumped from the excavation to enable basement construction to proceed.

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[79] The foregoing shows that DW1 simply relied on the conclusion reached by Endeavour Consult which coincided with that explained at length by DW1 during testimony without objection from the plaintiff. The foregoing describes the mechanism by which consolidation settlement occurred. As such there was no necessity for Messrs Endeavour Consult to be called as witnesses. Neither was there undue reliance on another expert. In any event, PW3 in the course of his testimony also conceded during cross-examination that this mechanism above caused the lowering of the ground water table level on the retained earth side of the wall.

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[80] DW1's admission that the vibration caused by the installation of sheet piles being a valid concern did not alter or significantly impinge on his conclusion that it was the choice of a permeable retaining wall system that had given rise to ground consolidation and settlement which caused the failure of third party property as well as the wall.

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[81] With regards to (e), namely that DW1 initially maintained that the wrong choice of retaining wall gave rise to third party damage and subsequently in re-examination sought to expand that to include damage to the wall, it is necessary to consider the entirety of DW1's evidence in conjunction with his expert report. Learned counsel for the plaintiff strongly contended that DW1's findings were solely as set out in the three conclusions summarised above at the end of DW1's report. Conclusion No 1 it was maintained related solely to third party damage and not to damage to the wall. As a reminder, this is how the conclusion reads:

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The substitution of a soldier pile retaining wall for sheet piling, which allows the ground water level around the site to be lowered when the excavation is pumped out. The results of this action are consolidation settlement and related damage to services and structures nearby.

A [82] When it was put to DW1 in cross-examination that the second sentence of the aforesaid paragraph makes reference to damage to third parties rather than to the retaining wall, DW1 answered 'yes'. Later after re-examination, when the plaintiff was accorded a further opportunity to cross-examine DW1, learned counsel for the plaintiff again queried DW1 about his conclusion No 1, whereupon he confirmed that it extended to damage to the wall and not merely third party damage. His evidence is fortified by a perusal of the entirety of his written report and the totality of DW1's evidence.

C [83] As set out earlier from DW1's report, DW1 summarised the contributory causes for the failure of the wall where he stated, inter alia, that 'Secondly, the original calculations made no allowance for ground water to be retained as part of the wall design'. This conclusion relates to ground consolidation and settlement because as no proper allowance was made for the proper retention of the ground water level on the retained earth side of the wall, such ground water table was lowered as water seeped together with fines into the excavated site and was pumped out. So, it is evident from a reading of the report as a whole that DW1, from the outset had pointed to the failure to take into account the retention of ground water table levels as part of the wall design, as a contributory factor to the failure of the wall.

[84] Further, in summarising his evidence at the close of his testimony this is what DW1 stated in the course of re-examination:

F ... If we look at the events which occurred at the site, the temporary works, ie the wall fell over. I have established in the report in the conclusions that *because we were using a permeable retaining wall system this allowed loss of control of ground water level on either side of the excavation. We know the wall collapsed because the ground anchor failed. We know this because of the top of the wall falling inwards and to the side.* In my report which is based on such information as I had, it was established that there were at least two possible scenarios where the ground anchor could have failed to cause the wall to fail. One conclusion was that the anchor became overloaded because the installed angle was too high. The plaintiff's position is that the anchor failed because the soil around it was weakened. *The cause of the weakening was excessive rainfall or a flow of water. Yesterday it was established that the flow of water from the anchor could wash the fines to the retaining site. This was only possible if a permeable system of retaining wall was used. Therefore the flow condition exists because of permeable retaining wall irregardless of whether the high water table was caused by rainfall or draw down due to pumping of the excavation.* This means that if it is overstressed, I cannot say whether it is caused by overstress or weakening of the soil. However the soil weakening cannot occur without ground water flow into the excavation through the retained earth. The onset of failure occurred in January 1996 and the failure was progressive over the period January through to late March. *I have shown that the selection of the retaining*

system because it is permeable is directly related to the failure of the anchor which causes the failure of the wall. Which brings me back to the sentence at para 8 (Emphasis added.)

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[85] It is evident from a reading of the foregoing as well as DW1's evidence as a whole that his conclusions are not neatly divisible into two categories, one for the wall and one for third party damage. The cause of the failure of the wall is related to the cause of the failure of the third party property by reason of ground consolidation and settlement, which in turn was caused by seepage of water from the retained earth side of the excavation into the excavation site. This much is undisputed upon a consideration of the evidence of both PW3 and DW1. Therefore, it is not tenable to maintain with certainty that the permeability of the retaining wall system consisting of soldier piles caused only third party damage. It is also a contributory cause for the failure to the wall, in line with the evidence of both experts.

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[86] DW1's evidence was that if indeed, the issue of the ground water table retention had been considered fully in the course of ascertaining the design of the wall, then sheet piling, while not entirely watertight, would have prevented the seepage of water to a far greater extent than that of soldier piling. As such only a small amount of ground water would have leaked into the excavation when it was de-watered. This would have reduced the incidence of ground settlement. Ground settlement as stated by DW1 and conceded by PW3 was foreseeable.

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[87] Having considered both PW3's and DW1's evidence it appears, for the reasons set out above and particularly after the cross-examination of PW3, that DW1's evidence is to be preferred to that of PW3. In any event, PW3 conceded that the soldier pile wall was defective, that he had foreseen ground settlement although he had believed it would be within 'tolerance levels' and finally that the rainfall during the material period was foreseeable. PW3 effectively agreed with the theory put forward by DW1 relating to the seepage of water resulting in ground settlement. DW1's evidence suffered solely from the infirmity that he had not inspected the site physically, because he was retained long after the incident. Notwithstanding this, his analysis of the cause of the damage, to which PW3 agreed, is the more tenable and credible version, given the testimony of both witnesses. Accordingly it appears that the cause of the damage to the wall is the wrong choice of a retaining wall and not the heavy rainfall. The ground anchors failed as a consequence of weakening of the soil around it which was caused in turn by the flow of water. This was possible because of the permeable retaining wall system used. If a less permeable system had been designed and utilised, water would not have flowed across the retaining wall and weakened the anchors, notwithstanding heavy rainfall. Finally it is relevant that a study of the rainfall records for the

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- A material period, compared with the corresponding years prior to, and immediately after the material period, does not disclose with any degree of certainty that such rainfall can be categorised as 'excessive'. Even PW2 did not state so. As such it is the finding of this court that the cause of the loss and damage to the contract work under section 1 of the policy is the wrong choice of a retaining wall as contended by the defendant and not heavy rainfall as contended by the plaintiff.
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Issue (3): *Having ascertained the cause of the loss and damage to the contract work under section 1 of the policy, does it fall within the terms of the all risks' policy as being 'sudden and unforeseeable'?*

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- [88] From the foregoing discussion relating to the cause of the damage to the wall, ie the contract work under section 1 of the policy, it is evident that the failure of the wall was foreseeable. This is because the failure of the wall is directly attributable to the weakening of the soil around the ground anchors supporting it which weakening arose as a consequence of the flow of water and fines from the retained earth side of the excavation into the excavation site which reduced the ground water table level on the retained side. This resulted in ground settlement or consolidation which PW3 in cross-examination confirmed was foreseeable.
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- [89] DW1's evidence also makes it clear that ground settlement and consolidation are one of the factors that are or ought to be considered when designing a retaining wall system, albeit temporary or permanent. In other words, ground settlement is a foreseeable consequence which the designer of the retaining wall is bound to take into account in designing a suitable retaining system. It was the failure to do so that resulted in the damage to the wall. As such it is a foreseeable, rather than an unforeseeable peril.
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- G [90] Was it 'sudden'? On this point, the plaintiff maintained that the defendant was precluded from either leading evidence or making submissions as to whether or not the damage was 'sudden' in that there had been a failure to specifically plead this issue by way of defence. However the onus is on the plaintiff to show that the damage was 'sudden' as well as unforeseeable. It is therefore incumbent on the plaintiff to show from the sequence of events that the damage to the wall was 'sudden'.
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- I [91] The events as set out in the background facts reveal that the deflections of the wall were progressive over a period of several months between March 1996 and April 1996 although cracks near the site and around it, appeared earlier in January. It is evident that the deflections to the wall were progressive. In fact remedial measures were taken to try and stop the damage to the retaining wall as well as the third party property. In these

circumstances can it be said that the damage was 'sudden'? The nature of the deflections and the period over which they occurred suggest that the damage to the wall was not sudden. In this context, as explained at the outset, this court does not accept that the burden lies on the defendant to establish that the damage to the wall was 'not sudden' and 'foreseeable'. Such burden lay with the plaintiff. In these circumstances, given the progressive nature of the failure and the manner in which it occurred, it appears to this court that the damage is not sudden.

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[92] In conclusion, based on the analysis of the expert evidence, it appears that the loss and damage to the contract works under section 1 of the policy is neither 'unforeseeable' (for the reasons cited above) nor 'sudden'. As such, the damage does not fall within the ambit of the peril insured against.

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Issue (4): *If the cause of the damage to the contract work was (a) above, does this fall within the special exclusion (c) to section 1 of the policy, ie loss or damage due to faulty design with excluded from liability?*

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[93] Even if I am wrong in my conclusion above, and the damage was indeed 'sudden' and 'foreseeable', it is necessary to consider whether the cause of the damage falls within the special exclusion (c) to section 1 of the policy which reads as follows:

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The Insurers shall not, however, be liable for

(a) ...

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(b) ...

(c) loss or damage due to faulty design; ...

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[94] It therefore falls to be considered whether the cause of the damage to the wall can be said to be loss or damage due to faulty design. This in turn begs the question whether the failure to consider that the soldier piling system of a retaining wall is highly permeable compared to a sheet pile wall, allowing water to seep through and resulting in consolidation and settlement and weakening of the soil around the ground anchors, amounts to a 'faulty design' or a design fault. In essence it is the failure to design a system that takes into consideration the foregoing factor, namely the seepage of water through the wall which is permeable that is stated to have) contributed to the failure of the wall together with the failure of the ground anchors as a consequence of the weakening of the soil around it, which again is attributable to seepage of water. As it is a foreseeable phenomenon which is well documented according to DW1, it follows that it is a consideration that ought to have been taken into account in the course of designing the

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A retaining wall system. In stating that this was a well documented phenomenon, DW1 relied on a textbook entitled *Foundation Design and Construction* (6th Ed) by MJ Tomlinson with contributions by R Boorman. It states at para 11.2:

B 11.2 Ground water in excavations

C 11.2. *Ground water is usually regarded as one of the most difficult problems in excavation work. Heavy and continuous pumping from excavations is a costly item and the continual flow from the surrounding ground may cause settlement of adjacent structures.* Heavy inflow is liable to cause erosion or collapse of the sides of open excavations ... *However, from a knowledge of the soil and ground-water conditions and an understanding of the laws of hydraulic flow, it is possible to adopt methods of ground-water control which will ensure a safe and economical construction scheme in any conditions.* It is important to obtain all the necessary information before commencing work, and this aspect should not be neglected at the site investigation stage. (Emphasis added.)

E [95] This excerpt shows that the problem of ground water seepage in excavation is a common problem. It also shows that it is possible to adopt methods of ground water control to ensure a safe and economical construction scheme in any conditions. It appears in the instant case that the substitution of the original sheet piling proposed by PW3 for the soldier piling requested by the contractor failed to address this ground water problem adequately. As such it follows that the loss and damage was due to a failure to give due consideration to a significant factor which is normally taken into account in the design of a retaining wall. It follows that this is a design fault. As such it falls within exclusion (c) to the policy which excludes the insurer from liability.

G Issue (5): *What was the cause of the third party loss and damage under section 2 of the policy —*

H *(a) heavy rainfall as contended by the plaintiff; or (b) the wrong choice of a retaining wall and pressure grouting at an injection pressure exceeding the self-weight of the soil as contended by the defendant?*

I Issue (6): *Does endorsement 120 of the policy, namely loss or damage caused by vibration or removal or weakening of support apply to the plaintiff's claim for third party damage? The plaintiff maintains that it is inapplicable as the operative cause of such damage is the wrong choice of retaining wall and pressure grouting, not vibration or removal or weakening of support*

[96] Section 2 of the policy relates to third party liability and provides as follows:

The Insurers will indemnify the insured up to but not exceeding the amounts specified in the Schedule against such sums which the Insured shall become legally liable to pay as damages consequent upon

(a) accidental bodily injury to or illness of third parties (whether fatal or not)

(b) accidental loss of or damage to property belonging to third parties occurring in direct connection with the construction or erection of the items insured under Section 1 and happening on or in the immediate vicinity of the site during the Period of Cover.

[97] The plaintiff is therefore accorded cover or indemnity for loss and damage arising from accidental loss of or damage to property belonging to third parties.

[98] By virtue of the special exclusions to section 2, damage to property or land or building caused by vibration or by the removal or weakening of support is excluded. By virtue of endorsement 120 however, section II liability was expressly extended to cover liability consequent upon loss or damage caused by vibration or by the removal or weakening of support. However, there is a proviso to section 120 which stipulates that the insurers will not indemnify the insured in respect of the liability for loss or damage which is foreseeable having regard to the nature of the construction work or the manner of its execution.

[99] The loss or damage relating to third parties is prima facie recoverable by reason of the fact that it is indeed accidental loss of or damage to third party property. The defendant however maintains that endorsement 120 is applicable, more particularly the proviso thereto, which precludes liability for loss or damage which is 'foreseeable' having regard to the nature of the construction work or the manner of its execution. The plaintiff however maintains that endorsement 120 does not apply because it refers to a situation where damage was caused by vibration, removal or weakening of support. The cause of damage here, it is maintained, by DW1, the defendant's own expert, is the wrong choice of a retaining wall system and pressure grouting. To this end, the plaintiff points out that the defendant's loss adjuster initially conceded liability before changing his mind.

[100] This brings into focus the issue of the *proximate cause of the loss and damage*. Was the loss in this case caused by a peril insured against? In order to ascertain this, it is necessary to consider from the expert evidence above the sequence of events resulting in the loss and damage to third parties. The plaintiff's expert, PW3 maintains that the damage to third party property was due to heavy rainfall. He also stated that the heaving of ground floor slabs of

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- A third party buildings was caused by pressure grouting, as did DW1. DW1 however, stipulated in his report that damage to third party property was due to the wrong choice of retaining wall while the heaving of ground floor slabs was attributed to pressure grouting. His conclusion in relation to the wrong choice of retaining wall which has been reproduced above is as follows:
- B (1) The substitution of a soldier pile retaining wall for sheet piling, which allows the ground water level around the site to be lowered when the excavation is pumped out. The results of this action are consolidation settlement and related damage to services and structures nearby.
- C As for pressure grouting, DW1's conclusion was:
- D (2) Pressure grouting of the ground at an injection pressure exceeding the soil overburden pressure or self weight. The result of this action is heaving of the ground floor slabs in buildings close to where pressure grouting has been carried out.

E [101] It can therefore be seen that both experts agree on the cause of the heaving of the ground floor slabs. This is therefore not in issue. Earlier on in this judgment, I concluded that DW1's evidence was preferred over that of PW3's evidence in relation to both the cause of the damage to the retaining wall system as well as third party damage. In so far as the choice of retaining wall is concerned, the substitution of the soldier pile retaining wall allowed ground water levels to be lowered resulting in consolidation settlement and thereby damage to third party property. Pressure grouting at excessively high injection pressures is the other and non-disputed reason for third party damage.

G [102] As such, the wrong choice of retaining wall and pressure grouting are the causes of the third party damage. But endorsement 120 relates to damage caused by vibration, removal or weakening of support. The wrong choice of a retaining wall and pressure grouting may well have caused consolidation settlement resulting in the damage to the third party property. Consolidation settlement involves a weakening or removal of support in that as the water flows through the permeable retaining wall, it takes with it the fines and thus land or support, thereby weakening or removing such support. But is this removal or weakening of support the proximate cause of the third party damage, or is it the last in the chain of events bringing about the loss? A chain of events reflecting the events preceding the loss would appear as follows:

I	Wrong choice of retaining wall + Pressure grouting (A)	Weakening or Removal of Support (B)	Third party damage
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[103] In these circumstances, is (A) or (B) the proximate cause of the third party damage? Is the third party damage attributable to the faulty design/wrong choice of retaining wall and pressure grouting or a weakening or removal of support? A

[104] ER Hardy Ivamy in his sixth edition of *General Principles of Insurance Law* defines proximate cause as follows: B

... Every event is the effect of some cause. It cannot, however, be treated as isolated; it is not an effect attributable solely to the operation of the cause working independently of everything else. It is necessarily preceded and led up to by a succession of events, but for which it would not, or might not, have happened. Hence it is nothing more than the last link in a chain of causes and effects which might be prolonged indefinitely into the past. The law however refuses to enter into a subtle analysis, or to carry back the investigation further than is necessary. It looks exclusive to the immediate and proximate cause, all causes preceding the proximate cause being rejected as too remote. C D

[105] In the instant case, can the weakening or removal of support be said to have caused the third party damage? If so, endorsement 120 is applicable. If not, endorsement 120 is inapplicable. E

[106] It appears to this court that the weakening or removal of support is the last link in the chain of events giving rise to the third party damage. But it is not necessarily the proximate cause of such third party damage. In the *Principles of Insurance Law* by Poh Chu Chai, (5th Ed), the learned author stated that the proximate cause of a loss is not the cause which is the last in time to bring about the loss. It is the cause which leads in the natural sequence of events to the final loss. In *Yorkshire Dale Steamship Co Ltd v Minister of War Transport (The Coxwold)* [1942] AC 691, the House of Lords held as follows: F G

The proximate cause of the loss of a ship is not necessarily the one which operates last, but is the effective and predominant cause, selected from among cooperating causes.

[107] And in *Leyland Shipping Co Ltd v Norwich Union Fire Insurance Society, Ltd* [1918] AC 350 the House of Lords held as follows in relation to causation: H

To treat proxima causa as the cause which is nearest in time is out of the question. Causes are spoken of as if they were as distinct from one another as beads in a row or links in a chain, but — if this metaphysical topic has to be referred to — it is not wholly so. The chain of causation is a handy expression, but the figure is inadequate. Causation is not a chain but a net. At each point influences, forces, events, precedent and simultaneous, meet and the radiation from each point I

A extends infinitely. At the point where these various influences meet it is for the judgment as upon a matter of fact to declare which of the causes thus joined at the point of effect was the proximate and which was the remote cause.

B [108] It follows that the last sequence in the chain or 'net' of causation is not necessarily the proximate cause of the damage or loss. In the instant case, the removal or weakening of support follows from the faulty design and the pressure grouting. It is doubtful that it can be described as an independent cause in itself. It, ie the removal or weakening of support was brought about as a consequence of the faulty design and the pressure grouting. It would not have occurred but for these causes. In these circumstances it appears that the proximate cause for the damage to third party property was in fact the wrong choice of retaining wall and pressure grouting rather than a removal or weakening of support.

D [109] It therefore follows that as the proximate cause of the loss was the wrong choice of retaining wall or faulty design and pressure grouting that the loss was not caused by a removal or weakening of support. As such endorsement 120 is not applicable because the loss to the third party property was not caused by 'vibration or by the removal or weakening of support'. As such section 2 which provides for an indemnity from the insurer for accidental loss of or damage to property belonging to third parties alone applies. None of the special exclusions was pleaded to preclude liability nor was any evidence adduced to that effect. In these circumstances it appears that the defendant is liable to the plaintiff for all losses arising from damage to property belonging to third parties.

G Issue (7): *If endorsement 120 is applicable, is liability excluded by the proviso to that section which provides that the insurer will not be liable for loss or damage which is foreseeable having regard to the nature of the construction work or the manner of its execution*

H [110] As it has been concluded that endorsement 120 is not applicable this issue does not arise for consideration. The proviso cannot come into play where the endorsement in itself is inapplicable.

I [111] It is relevant to note that I have not specifically referred to the evidence of the other witnesses at trial in the course of this judgment. I have however perused their evidence and given it due consideration. For the purposes of this judgment it has not been necessary to touch on the same.

CONCLUSION

[112] For the reasons stated above, the plaintiff's claim against the defendant in respect of loss or damage arising from contract work under section 1 of the policy is not allowed. That part of the plaintiff's claim relating to damages arising from the loss or damage to contract work under section 1 of the policy fails and is dismissed. However the plaintiff's claim against the defendant in respect of third party damage arising under section 2 of the policy is allowed with interest. Each party is to bear its own costs. For avoidance of doubt, the plaintiff is entitled to RM558,076.43 together with interest at 8%pa from 25 January 2002, the date of filing of the writ.

Plaintiff's claim allowed in part.

Reported by Kanesh Sundrum

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